

REMARKS

The specification bridging pages 8-9 has been amended to correct an inadvertent error.

Clear support is found, for example, at page 4, lines 13-21 of the specification.

Claims 1, 2 and 4 have been amended to clearly recite that the sintered body does not contain La. No change in claim scope is intended. The amendment prevents any incorrect reading of the claims as requiring at least one element selected from Group 3 other than La, but not necessarily excluding La. Clear support is found, for example, at page 8, lines 3-11 of the specification ("however, La is excluded therefrom.").

New claim 8 is the combination of claims 1 and 2 as amended and original claims 3 and 6.

Review and reconsideration on the merits are requested.

Claims 1-4 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,403,461 to Tuller et al. Tuller et al. was cited as disclosing a sintered compact bar of a solid electrode/electrolyte containing solid solutions of the type ABO_3 said to meet each of the terms of the rejected claims.

Applicants traverse, and respectfully request the Examiner to reconsider for the following reasons.

Tuller et al. at column 11, lines 41-44 describes a sintered solid electrolyte having Pt electrodes in a two probe configuration for electrical measurement nominally meeting the structure of a thermistor device.

The cited formula at column 7, lines 19-20, namely, $(La_{1-j}Sr)(Al_{1-k}Mn_k)(O_3)$ where $0 \leq j < 1$ necessarily contains La and is therefore outside the scope of claim 1 which excludes La. For example, when "j"=0, then the stoichiometric coefficient for La is 1.0. When "j" is < 1 (e.g., 0.99), then the stoichiometric coefficient for La is 0.01.

As described at page 8, lines 5-11 of the specification, La is excluded from the thermistor device of the invention. This is because, in the case where unreacted La oxide remains in the sintered body for thermistor devices, the unreacted compound reacts with moisture in the atmosphere to form $La(OH)_3$ which induces problems such as cracking in thermistor devices (sintered body for thermistor devices) and unstabilization of resistance.

The formula at column 5, lines 25-29 would seem to broadly overlap in scope with the claimed sintered body composition. For example, A can be Ca or Sr (i.e., a Group 2 element); B can be Al or Mn; D can be, for example, Sc (i.e., a Group 3 element); and E can be Al or Mn. The solid solution for forming the solid electrolyte further contains oxygen.

However, it is respectfully submitted that the broadly overlapping formula at column 5 of Tuller et al. does not disclose the claimed subject matter with sufficient specificity to constitute an anticipation. MPEP § 2131.03 II. For example, the present claims exclude La, yet this is expressly allowed by the broad, overlapping formula of Tuller et al. Likewise, claim 1 excludes any transition metal other than Mn and the at least one element selected from Group 3, yet the broad formula of Tuller et al. allows for the presence of a plurality of transition elements such as Cr, Ti, Zr and Hf in addition to Mn. The significance thereof is discussed at page 9, lines 2-5 of

the specification. Namely, the presence of a transition metal other than Mn and the at least one element selected from Group 3 in the periodic table, if any, would enlarge the constant B.

Moreover, although the broad formula of Tuller et al. allows for the presence of Mn and Al in the solid electrolyte, neither of these is identified as being essential components as required by present claim 1.

Tuller et al. also does not recognize the criticality in controlling the content "a" mole of the at least one element selected from Group 2 so that it satisfies the formula $0.02 \leq a < 1$ as claimed in claim 2. In that case, it becomes possible to make the sintered body for thermistor devices stable to a heat profile and to achieve favorable properties of the constant B (page 10, lines 8-12). The significance of the limitation of claim 3 is discussed at page 10, lines 17-24 of the specification. Namely, by controlling the content b of Mn to within the claimed specific range, a favorable temperature detection performance can be established over a wide temperature range. Again, although Tuller et al. may disclose a solid electrolyte which has a composition broadly overlapping in scope with that of the present claims, the subject matter of claims 2 and 3 is not disclosed with sufficient specificity to constitute an anticipation.

For the above reasons, it is respectfully submitted that claims 1-4 define novel subject matter, and withdrawal of the foregoing rejection under 35 U.S.C. § 102(b) is respectfully requested.

Claims 1 and 5-7 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,878,304 to Ogata et al. Ogata et al. was cited as teaching a thermistor formed from a mixed sintered body having the composition $(M1M2)O_3 \cdot AO_x$, where M1 is at least one element

selected from Ca, Sr, Y, Sm and Yb; M2 is at least one element selected from Al, Mn; and AO_x can be silica.

Applicants reply as follows.

As with Tuller et al., the broad formula of Ogata et al. seemingly overlaps in scope with the claimed sintered body composition. However, as above, Ogata et al. does not disclose the claimed subject matter with sufficient specificity to constitute an anticipation.

For example, Ogata et al. does not limit the thermistor to the exclusion of any transition metal other Mn and the at least one element selected from Group 3. Namely, the mixed sintered body of Ogata et al. may contain Ti, Zr, Hf, V, Mb, Ta, Cr, Mo, W, Fe, Co, Ni, all of which are transition metals. Furthermore, the preferred composite oxide described at column 3, lines 6-9, where M1 is Y, M2 is Cr and Mn and the mixed sintered body as expressed by Y(CrMn)O₃·Y₂O₃ is well outside the scope of claim 1. Namely, the "preferred" mixed sintered body of Ogata et al. does not contain a Group 2 element; contains the transition metal Cr expressly excluded from the scope of claim 1; and does not contain Al which is required by present claim 1. Also, as above, that Ogata et al. does not disclose the specific formulations of present claims 2 and 3 with sufficient specificity to constitute an anticipation.

For the above reasons, it is respectfully submitted that claims 1 and 5-7 define novel subject matter, and withdrawal of the foregoing rejection under 35 U.S.C. § 102(e) is respectfully requested.

Withdrawal of all rejections and allowance of claims 1-8 is earnestly solicited.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/724,253

Q78724

In the event that the Examiner believes that it may be helpful to advance the prosecution of this application, the Examiner is invited to contact the undersigned at the local Washington, D.C. telephone number indicated below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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